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EXAMINER

GARBOWSKI, LEIGH M

ART UNIT

PAPER NUMBER

2825

MAIL DATE

DELIVERY MODE

08/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/026,737

Applicant(s)

GRAHAM ET AL.

Examiner

Leigh Marie Garbowski

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Quintero et al. [U.S. Patent #5,293,479].

As per claim 1/10/21, a method of designing a routing element, wherein the routing element connects a plurality of components in a system, the method comprising: establishing a system design including the plurality of components [column 3, lines 4-20, 35]; generating a diagram associated with the system, wherein the diagram indicates connections of the plurality of components in the system [column 6, lines 13-22; column 9, lines 37-59]; establishing guidelines for designing the routing element, the guidelines including recommendations for designing the routing element [column 7, line 16-column 8, line 57]; and designing the routing element based on the diagram and the guidelines [column 10, line 63-column 11, lines 5, 35-64]. As per claim 2/11, wherein the routing element includes one or more connecting elements and wherein designing the routing element includes: determining one or more sets of one or more connecting elements that can be bundled; and determining a layout for each bundle within the routing element [column 5, line 59-column 6, line 36]. As per claim 3/12, further including: receiving one or more revised guidelines for designing the routing element; and determining a revised design for the routing element based on the diagram and the revised guidelines [column 6, lines 51-56; column 9, lines 60-63]. As per claim 4/13,

further including: providing a drawing/schematic illustrating the system and a design for the routing element [column 9, lines 37-56]. As per claim 5/14, wherein establishing guidelines includes: accessing guidelines/standards associated with the system design [column 8, lines 8-9]. As per claim 6/15, wherein establishing guidelines includes: accessing guidelines/standards associated with the plurality of components or the routing element [column 8, lines 8-9]. As per claim 7/16, further including: automatically providing information about the system design [column 9, line 66-column 10, line 14]. As per claim 8/17, wherein automatically providing information includes: providing at least one of: a three-dimensional drawing of the system, a two-dimensional drawing of the system, a list of components, and a bill of materials associated with at least one of the system, the routing element and the components [column 9, line 66-column 10, line 32]. As per claim 9, wherein the routing element includes a harness [column 3, lines 4-20, 35]. As per claim 18, wherein the structure includes a harness and the elements include wires [column 3, lines 4-20, 35]. As per claim 23, wherein the routing element includes one or more connecting elements and wherein establishing guidelines for designing the element includes establishing recommendations for routing the connecting elements through the system [column 7, line 16-column 8, line 57]. As per claim 24, wherein establishing guidelines for designing the routing element includes establishing the guidelines by prompting a user to answer one or more questions [column 8, lines 8-9]. As per claim 25, wherein establishing guidelines for designing the routing element includes accessing the guidelines from a centralized location [column 7, lines 42-43]. As per claim 26, wherein the routing element includes one or more connecting elements and wherein the routing design module is configured to establish guidelines for designing the routing element that include recommendations for routing the connecting elements in the system based on information reflecting attributes of at least one of the system, the connecting elements, and the components [column 6, lines 49-68].

As per claim 19, a tool for designing a routing element, wherein the routing element connects a plurality of components in a system via connecting elements, the tool comprising: a processor; and a computer-readable memory [column 10, lines 43-

57], wherein the memory includes: a computer-aided design module that, when executed by the processor, establishes a system design and generates a diagram associated with the system design, wherein the diagram indicates connections of the plurality of components in the system [column 3, lines 4-20, 35; column 6, lines 13-22; column 9, lines 37-59]; and a design module that, when executed by the processor, design the routing element based on one or more guidelines, the guidelines including at least one recommendation for routing the connecting elements in the system, and automatically determines routing patterns in the system for the element based on the diagram and the guidelines [column 7, line 16-column 8, line 57; column 10, line 63-column 11, lines 5, 35-64]. As per claim 20, wherein the design module is software designed to work with the computer-aided design module [column 10, lines 43-57].

As per claim 22, a method of routing an element among a plurality of components in a system, the method comprising: establishing the plurality of components to be connected [column 3, lines 4-20, 35]; generating routing guidelines including at least one recommendation for routing the element in the system [column 7, line 16-column 8, line 57]; and automatically determining a routing of the element to connect the plurality of components based on the routing guidelines [column 10, line 63-column 11, lines 5, 35-64].

As per claim 27, a method for designing a routing element that connects a plurality of components in a system, the method comprising: establishing a list of components and connections among the components [figure 2; column 8, lines 8-9; column 14, lines 3-8]; generating a diagram of the system based on the list, the diagram illustrating the components and the connections [column 6, lines 13-22; column 9, lines 37-59]; establishing guidelines for designing the routing element, the guidelines including information reflecting a geometry of the system [column 7, line 16-column 8, line 57]; and designing the routing element based on the diagram and the guidelines [column 10, line 63-column 11, lines 5, 35-64]. As per claim 28, wherein the guidelines further include at least one recommendation for routing the element in the system [column 7, line 16-column 8, line 57].

Claims 1, 3-10, 12-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Wada et al. [U.S. Patent #6,438,435].

As per claim 1/10/21, a method of designing a routing element, wherein the routing element connects a plurality of components in a system, the method comprising: establishing a system design including the plurality of components [column 6, lines 1-20]; generating a diagram associated with the system, wherein the diagram indicates connections of the plurality of components in the system [column 6, lines 21-25]; establishing guidelines for designing the routing element, the guidelines including recommendations for designing the routing element [column 6, lines 1-20, 26-30]; and designing the routing element based on the diagram and the guidelines [column 6, lines 31-38]. As per claim 3/12, further including: receiving one or more revised guidelines for designing the routing element; and determining a revised design for the routing element based on the diagram and the revised guidelines [column 6, lines 27-28]. As per claim 4/13, further including: providing a drawing/schematic illustrating the system and a design for the routing element [figure 4, 27]. As per claim 5/14, wherein establishing guidelines includes: accessing guidelines/standards associated with the system design [column 8, lines 26-31; column 13, lines 56-58]. As per claim 6/15, wherein establishing guidelines includes: accessing guidelines/standards associated with the plurality of components or the routing element [column 8, lines 26-31; column 13, lines 56-58]. As per claim 7/16, further including: automatically providing information about the system design [column 6, lines 42, 48-column 7, line 5]. As per claim 8/17, wherein automatically providing information includes: providing at least one of: a three-dimensional drawing of the system, a two-dimensional drawing of the system, a list of components, and a bill of materials associated with at least one of the system, the routing element and the components [column 6, lines 42, 48-column 7, line 5; figure 4, 27]. As per claim 9, wherein the routing element includes a harness [column 5, line 67-column 6, line 1]. As per claim 18, wherein the structure includes a harness and the elements include wires [column 5, line 67-column 6, line 1]. As per claim 23, wherein the routing element includes one or more connecting elements and wherein establishing guidelines for designing the element includes establishing

Art Unit: 2825

recommendations for routing the connecting elements through the system [column 6, lines 1-20, 26-30]. As per claim 24, wherein establishing guidelines for designing the routing element includes establishing the guidelines by prompting a user to answer one or more questions [column 6, lines 54-58; column 8, line 31]. As per claim 25, wherein establishing guidelines for designing the routing element includes accessing the guidelines from a centralized location [column 13, lines 20-21]. As per claim 26, wherein the routing element includes one or more connecting elements and wherein the routing design module is configured to establish guidelines for designing the routing element that include recommendations for routing the connecting elements in the system based on information reflecting attributes of at least one of the system, the connecting elements, and the components [column 6, lines 1-31].

As per claim 19, a tool for designing a routing element, wherein the routing element connects a plurality of components in a system via connecting elements, the tool comprising: a processor; and a computer-readable memory [figure 2, 22], wherein the memory includes: a computer-aided design module that, when executed by the processor, establishes a system design and generates a diagram associated with the system design, wherein the diagram indicates connections of the plurality of components in the system [column 6, lines 1-20; column 6, lines 21-25]; and a design module that, when executed by the processor, design the routing element based on one or more guidelines, the guidelines including at least one recommendation for routing the connecting elements in the system, and automatically determines routing patterns in the system for the element based on the diagram and the guidelines [column 6, lines 1-20, 26-30; column 6, lines 31-38]. As per claim 20, wherein the design module is software designed to work with the computer-aided design module [column 6, line 64-column 7, line 7].

As per claim 22, a method of routing an element among a plurality of components in a system, the method comprising: establishing the plurality of components to be connected [column 6, lines 1-20; column 6, lines 21-25]; generating routing guidelines including at least one recommendation for routing the element in the system [column 6, lines 1-20, 26-30]; and automatically determining a routing of the

Art Unit: 2825

element to connect the plurality of components based on the routing guidelines [column 6, lines 31-38].

As per claim 27, a method for designing a routing element that connects a plurality of components in a system, the method comprising: establishing a list of components and connections among the components [column 6, lines 1-20; column 7, lines 18-22]; generating a diagram of the system based on the list, the diagram illustrating the components and the connections [column 6, lines 21-25; column 7, lines 29-34]; establishing guidelines for designing the routing element, the guidelines including information reflecting a geometry of the system [column 6, lines 1-20, 26-30]; and designing the routing element based on the diagram and the guidelines [column 6, lines 31-38]. As per claim 28, wherein the guidelines further include at least one recommendation for routing the element in the system [column 6, lines 1-20, 26-30].

Claims 1, 4-10, 13-23, 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishikawa et al. [U.S. Patent #6,547,165].

As per claim 1/10/21, a method of designing a routing element, wherein the routing element connects a plurality of components in a system, the method comprising: establishing a system design including the plurality of components [figure 8; figure 20]; generating a diagram associated with the system, wherein the diagram indicates connections of the plurality of components in the system [figure 8, S11, S13; figure 20]; establishing guidelines for designing the routing element, the guidelines including recommendations for designing the routing element [figure 8, S15-S31, figure 20]; and designing the routing element based on the diagram and the guidelines [figure 8; figure 20]. As per claim 4/13, further including: providing a drawing/schematic illustrating the system and a design for the routing element [figure 1, element 17, 21]. As per claim 5/14, wherein establishing guidelines includes: accessing guidelines/standards associated with the system design [column 6, lines 28, 41, 59]. As per claim 6/15, wherein establishing guidelines includes: accessing guidelines/standards associated with the plurality of components or the routing element [column 6, lines 28, 41, 59]. As per claim 7/16, further including: automatically providing information about the system design [column 13, line 44]. As per claim 8/17, wherein automatically providing

information includes: providing at least one of: a three-dimensional drawing of the system, a two-dimensional drawing of the system, a list of components, and a bill of materials associated with at least one of the system, the routing element and the components [column 6, line 23]. As per claim 9, wherein the routing element includes a harness [column 6, line 13]. As per claim 18, wherein the structure includes a harness and the elements include wires [column 6, lines 13]. As per claim 23, wherein the routing element includes one or more connecting elements and wherein establishing guidelines for designing the element includes establishing recommendations for routing the connecting elements through the system [figure 8, S15-S31, figure 20]. As per claim 26, wherein the routing element includes one or more connecting elements and wherein the routing design module is configured to establish guidelines for designing the routing element that include recommendations for routing the connecting elements in the system based on information reflecting attributes of at least one of the system, the connecting elements, and the components [figure 8, S15-S31, figure 20].

As per claim 19, a tool for designing a routing element, wherein the routing element connects a plurality of components in a system via connecting elements, the tool comprising: a processor; and a computer-readable memory [column 1, line 13; figure 1, element 15, 41] wherein the memory includes: a computer-aided design module that, when executed by the processor, establishes a system design and generates a diagram associated with the system design, wherein the diagram indicates connections of the plurality of components in the system [figure 8, S11, S13; figure 20]; and a design module that, when executed by the processor, design the routing element based on one or more guidelines, the guidelines including at least one recommendation for routing the connecting elements in the system, and automatically determines routing patterns in the system for the element based on the diagram and the guidelines [figure 8, S15-S31, figure 20]. As per claim 20, wherein the design module is software designed to work with the computer-aided design module [column 1, line 13].

As per claim 22, a method of routing an element among a plurality of components in a system, the method comprising: establishing the plurality of components to be connected [figure 8; figure 20]; generating routing guidelines

including at least one recommendation for routing the element in the system [figure 8, S15-S31, figure 20]; and automatically determining a routing of the element to connect the plurality of components based on the routing guidelines [figure 8; figure 20].

As per claim 27, a method for designing a routing element that connects a plurality of components in a system, the method comprising: establishing a list of components and connections among the components [figure 8; figure 20; column 6, line 28-column 6, line 12]; generating a diagram of the system based on the list, the diagram illustrating the components and the connections [figure 8, S11, S13; figure 20; column 7, lines 15-17]; establishing guidelines for designing the routing element, the guidelines including information reflecting a geometry of the system [figure 8, S15-S31, figure 20]; and designing the routing element based on the diagram and the guidelines [figure 8; figure 20]. As per claim 28, wherein the guidelines further include at least one recommendation for routing the element in the system [figure 8, S15-S31, figure 20].

Response to Arguments

Applicant's arguments filed 05/29/2007 have been fully considered but they are not persuasive. Given a broadest reasonable interpretation of the broadly claimed subject matter and the broad description in the specification, the examiner must maintain the above rejections.

The Quinetto et al. reference was applied to demonstrate a broadest reasonable interpretation of the claimed subject matter in the extreme; the reference depicts a design tool and method of design that employs lists, diagrams and guidelines/recommendations for connecting an element(s). The level of skill in the art would easily accommodate the anticipation of the claimed invention with an extension of the reference to wire harness assemblies as suggested [see column 10, lines 63-column 11, line 5], there is nothing too specific recited in the claims to preclude this position. Many of the components disclosed can be considered to be routing elements, since a component connects to other components, this in effect defines what a routing element is. Furthermore, the specification defines the term "guidelines" with the term "recommendations" [paragraph 22]; thus it is interpreted that the terms are interchangeable, i.e. guidelines are recommendations, recommendations are

guidelines. The specification further describes that guidelines/recommendations are rules and/or standards [paragraph 22]; thus the use of a knowledge base, rule base and inference engine seems appropriate to anticipate the establishing of guidelines and the designing thereof accordingly.

With respect to Wada et al. and Ishikawa et al., the applicant makes a rather narrow argument to describe both the references and the claimed subject matter. Again, given a broadest reasonable interpretation of the claimed subject matter, it seems appropriate that at some point during the design process data is entered for use in determining a course of action within certain preferred parameters. The examiner does not completely understand the narrow intent of the arguments; the references are clearly directed toward the design of wire or cable harnesses, the specific language of which is not even recited in the present claims. Each reference sufficiently discloses a broadest reasonable interpretation of what guidelines/recommendations are, establishing such parameters, and designing accordingly.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 571-272-1893. The examiner can normally be reached on days.

Art Unit: 2825

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LEIGH M. GARBOWSKI
PRIMARY EXAMINER